

configured to detect an approach of a pen touch when the pen is approaching a particular location on the display surface and is within range of or at a predetermined distance from the display surface. As an example, the touch sensitive display may be configured to detect a pen approaching the display surface when the pen is within two centimeters of the display surface.

[0023] The touch sensitive computing systems described herein may be implemented in various forms, including a tablet laptop, smartphone, portable digital assistant, digital notebook, and the like. An example of such a digital notebook is shown in FIG. 2 and described in more detail below.

[0024] Logic subsystem 22 may be configured to run interface instructions so as to provide user interface functionality in connection with I/O subsystem 28, and more particularly via display subsystem 26 (e.g., a touch sensitive display). Typically, the interface software is operatively coupled with the touch sensitive display of display subsystem 26 and is configured to detect a touch input applied to the touch sensitive display. In response to such detection, the interface software may be further configured to display touch operable user interface at a location on the touch sensitive display that is dependent upon where the touch input is applied to the touch sensitive display. As an example, touch (or pen) operable icons may appear around a location where a user rests his finger on the display. This location may depend on the extent of the selected object (e.g. at the top of the selection). Touch operable icons also may appear at a fixed location, with the touch modulating the appearance (fade in) and release triggering the disappearance of icons or toolbars. The location of icons may also be partially dependent on the touch location, e.g. appearing in the right margin corresponding to the touch location.

[0025] FIG. 2 shows a schematic depiction of a user interacting with an embodiment of an interactive display device. As an example, such an embodiment of an interactive display device may be a touch sensitive computing system such as digital notebook 30. Digital notebook 30 may include one or more touch sensitive displays 32. In some embodiments, digital notebook 30 may include a hinge 34 allowing digital notebook 30 to foldably close in the manner of a physical notebook. Digital notebook 30 may further include interface software operatively coupled with the touch sensitive display, as described above with reference to FIG. 1.

[0026] As shown in FIG. 2, digital notebook 30 may detect touches of a user's finger 36 and touches of a pen 38 on touch sensitive displays 32. Digital notebook 30 may be further configured to detect approaches of pen 38 when pen 38 is within a predetermined distance from touch sensitive display 32. As an example, a user's finger 36 may be used to select an object 40 displayed on touch sensitive display 32, and in response touch sensitive display 32 may be configured to display an indication that the item has been selected, such as by displaying a dashed-line box 42 around object 40. The user may then perform a more precise gesture, such as a precise resizing of object 40 using pen 38. It should be understood that this but one of many potential examples; selecting and resizing an object is just one of many operations that may be performed with a combination of touches and pen touches. Furthermore note that the scope of the object(s) selected may depend on the location, extent, or shape of the contact region(s) formed by the finger(s) and hand(s) contacting the display. Other examples are described in more detail below.

[0027] FIG. 3 shows an exemplary interface method 50 for a touch sensitive computing device. At 52, method 50 includes detecting a touch input applied to a touch sensitive display. A touch input, as described herein, may include a touch of a physical object on the touch sensitive display, such as a thumb or finger (i.e. a handtouch). In some cases, such a touch input may be of an operative end of a pen-type touch implement (i.e. a pentouch). Further, a touch input may also include a combination of a handtouch and pentouch, and/or a combination of a handtouch and an approach of the pen (i.e. pentip approach). In some embodiments, a touch input of a handtouch type may include a "tap" handtouch, wherein a user taps the touch sensitive display such that the touch sensitive display detects a commencing of the touch followed by a cessation of the touch. In many cases, it will be desirable that tap handtouches are processed by the interface software to cause selection of items on the touch sensitive display.

[0028] In some embodiments, a touch input of a handtouch type may include a "rest" handtouch, wherein a user touches the touch sensitive display and remains touching the display device, such that the touch sensitive display detects a commencing of a prolonged touch. In some embodiments, while the touch sensitive display device is detecting a rest handtouch, the display device may additionally detect an approach of a pentip, such that detecting a touch input as described above at method 50 may include detecting the combination of a rest handtouch and a pentip approach. As discussed below, a rest touch from a user's hand or other object may be processed to cause display of touch operable commands on the display screen. The added input of an approaching pentouch can modify the process of making the touch operable commands displayed on the screen. For example, an approaching pen touch may cause the touch operable commands to be displayed more quickly, as will be discussed in examples below.

[0029] At 54 method 50 includes, in response to detecting the touch input, causing selection of an item displayed on the touch sensitive display and displaying a touch operable command or commands on the touch sensitive display that are executable upon the item. For example, as described above, a touch input may be used to select an item displayed on the touch sensitive display. Further, upon selection of an item, the touch sensitive display may display on the touch sensitive display device a touch operable command or commands. Alternatively, the touch operable commands may be displayed in response to a "rest" handtouch applied to the displayed item.

[0030] In any case, the touch operable commands that appear may include selectable options corresponding to the item of any number and types of contextual menus, such as formatting options, editing options, etc. In some embodiments, the displaying of touch operable commands may include revealing the touch operable commands via "fading in", and/or "floating in", such that the touch operable commands slowly fade into view and/or move into the place on the display where they will be activated from. Revealing the touch operable commands in such a manner can provide a more aesthetic user experience by avoiding flashing and/or sudden changes of images on the display, which may be a distraction to the user. Furthermore, the progressive nature of the fade in/float in method is that the user notices the change to the display and the user's eye is drawn to the particular location from which the faded-in commands can be activated.